Notice of Allowability	Application No.	Applicant(s)	
	10/719,331	INOUE, HITOSHI	
	Examiner	Art Unit	
	Elizabeth Keaney	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendments filed 26 July 2004*.

2. ☒ The allowed claim(s) is/are *22 and 76-86*.

3. ☒ The drawings filed on *20 November 2003* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☒ Certified copies of the priority documents have been received in Application No. *09/773095* .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

The Amendments filed 26 July 2004 have been entered.

The Examiner notes that the Amendment filed 26 July 2004 improperly indicates that claims 1-21 and 48-75 are withdrawn. Rather, these claims are cancelled from the application as evidenced by the Transmittal of New Application paper filed 20 November 2003.

Allowable Subject Matter

Claims 22 and 76-86 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Re claim 22: The best prior art of record discloses a radiation image sensing apparatus, comprising: a radiation tube for radiating radiation; a sensor for converting the radiation to an image data; a grid arranged in front of the sensor; an input unit for inputting a part information of an object which is an information concerning to a part of the object to be sensed; an image processing unit for performing a grid removing processing that removes a grid image from the image data. However, the prior art fails to teach or fairly suggest a radiation image sensing apparatus capable of removing grid images from the image data wherein a determination unit fro determining whether or not

the grid removing processing should be performed for the image data based on the part information, as claimed in claim 22.

Re claim 76: The best prior art of record discloses a radiation image sensing apparatus, comprising: a radiation tube for radiating radiation; a sensor for converting the radiation to an image data; a grid arranged in front of the sensor; a first image processing unit for performing a grid removing processing that removes a grid image from the image data. However, the prior art fails to teach or fairly suggest a radiation image sensing apparatus capable of removing grid images from the image data further comprising a second image processing unit for performing a spatial frequency processing that detects a spatial frequency of the image data and a determination unit for determining whether or not the grid removing processing should be performed for the image data based on the spatial frequency, as claimed in claim 76.

Re claim 77: The best prior art of record discloses a radiation image sensing apparatus, comprising: a radiation tube for radiating radiation; a sensor for converting the radiation to an image data; a grid detachably arranged in front of the sensor; an image processing unit for performing a grid removing processing that removes a grid image from the image data. However the prior art fails to teach or fairly suggest a radiation image sensing apparatus capable of removing grid images from the image data wherein a determination unit for performing a spatial frequency analysis for the image data and determining whether or not the grid is attached in front of the sensor on the basis of a spectrum amplitude of a frequency band corresponding to the grid image, wherein the image processing unit performs the grid removing processing when it is

determined that the grid is attached in front of the sensor by the determination unit, as claimed in claim 77.

Re claim 78: The best prior art of record discloses a radiation image sensing apparatus, comprising: a radiation tube for radiating radiation; a sensor for converting the radiation to an image data; a grid arranged in front of the sensor; and a first image processing unit for performing a grid removing processing that removes a grid image from the image data. However the prior art fails to teach or fairly suggest a radiation image sensing apparatus capable of removing grid images from the image data further comprising a second image processing unit for calculating a magnitude of a contrast of the grid image; and a determination unit for determining whether or not the contrast of the grid image is larger than a predetermined value, wherein the image processing unit performs the grid removing processing when it is determined that the contrast of the grid image is larger than the predetermined value by the determination unit, as claimed in claim 78.

Re claims 79 and 83: The best prior art of record discloses a control method of a radiation image sensing apparatus which has a radiation tube for radiating radiation, a sensor for converting the radiation to an image data, and a grid arranged in front of the sensor, the method comprising the steps of: inputting a part information of an object which is an information concerning a part of the object to be sensed. However, the prior art fails to teach or fairly suggest a control method of a radiation image sensing apparatus for removing grid images wherein determining whether or not a grid removing processing that removes a grid image from the data should be performed based on the

part information and performing the grid removing processing based on a result of the determining step, as claimed in claim 79. Claim 83 is allowable by virtue of its dependency.

Re claims 80 and 84: The best prior art of record discloses a control method of a radiation image sensing apparatus which has a radiation tube for radiating radiation, a sensor for converting the radiation to an image data, and a grid arranged in front of the sensor. However, the prior art fails to teach or fairly suggest a control method of a radiation image sensing apparatus for removing grid images comprising the steps of performing a spatial frequency processing that detects a spatial frequency of the image data; determining whether or not a grid removing processing that removes a grid image from the image data should be performed, based on the spatial frequency; and performing a grid removing processing based on a result of the determining step, as claimed in claim 80. Claim 84 is allowable by virtue of its dependency.

Re claims 81 and 85: The best prior art of record discloses a control method of a radiation image sensing apparatus which has a radiation tube for radiating radiation, a sensor for converting the radiation to an image data and a grid detachably arranged in front of the sensor. However, the prior art fails to teach or fairly suggest control method of a radiation image sensing apparatus for removing grid images comprising the steps of performing a spatial frequency analysis for the image data and determining whether or not the grid is attached in front of the sensor on the basis of a spectrum amplitude of a frequency band corresponding to a grid image; and performing a grid removing processing that removes the grid image from the image data when it is determined that

the grid is attached in front of the sensor in the determination step, as claimed in claim 81. Claim 85 is allowable by virtue of its dependency.

Re claims 82 and 86: The best prior art of record discloses a control method of a radiation image sensing apparatus which has a radiation tube for radiating radiation, a sensor for converting the radiation to an image data, and a grid arranged in front of the sensor. However, the prior art fails to teach or fairly suggest a control method of a radiation image sensing apparatus for removing grid images comprising the steps of calculating a magnitude of a contrast of a grid image, determining whether or not the contrast of the grid image is larger than a predetermined value; and performing a grid removing processing that removes the grid image from the image data when it is determined that the contrast of the grid image is larger than the predetermined value in the determination step, as claimed in claim 82. Claim 86 is allowable by virtue of its dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent 6,396,074 discloses determining whether a grid is present or not but does not teach determining whether the grid is present on the basis of a spectrum amplitude of a frequency band corresponding to the grid image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Keaney whose telephone number is (571)272-2489. The examiner can normally be reached on Monday-Thursday 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

emk

DAVID V. BRUCE
PRIMARY EXAMINER